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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/987,899      | 11/16/2001  | Nordine Cheikh       | 16517.258           | 7754             |

7590

07/06/2005

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| EXAMINER |
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ALLEN, MARIANNE P

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| ART UNIT | PAPER NUMBER |
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1631

DATE MAILED: 07/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/987,899

Applicant(s)

CHEIKH ET AL.

Examiner

Marianne P. Allen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1, 23 and 24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 23-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Claims 1 and 23-24 are under consideration by the examiner.

Applicant's arguments filed 4/26/05 have been fully considered but they are not persuasive.

#### ***Claim Objections***

Claim 23 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 1. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claims 1 and 23 are both directed to a substantially purified nucleic acid molecule comprising the sequence of SEQ ID NO: 5 or complete complement thereof. They do not appear to differ in scope.

#### ***Claim Rejections - 35 USC § 101/112***

Claims 1 and 23-24 are rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility.

This rejection is maintained for reasons of record.

SEQ ID NO: 5 is a 323 base pair DNA sequence from Zea mays (corn). When aligned with the prior art sequence of Matsuoka et al., the instant sequence matches the sequence in GI Accession No. 217963 with the exception of one nucleotide. (See alignment attached to prior Office action.) This corresponds to the sequence shown in Figure 1 of the Matsuoka et al.

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reference (*J. Biochem.*, 1987). The first nucleotide in SEQ ID NO: 5 corresponds to nucleotide 213 in Figure 1. SEQ ID NO: 5 includes part of the coding region of this figure as well as 3' untranslated sequence through nucleotide 534. The presence of an "A" at position 141 of SEQ ID NO: 5 results in a frame shift or new reading frame where the encoded protein would no longer correspond to the protein disclosed by Matsuoka et al. That is, only approximately 47 amino acids of the ribulose-1,5-bisphosphate carboxylase from maize disclosed by Matsuoka et al. are encoded by the claimed SEQ ID NO: 5. Furthermore, the sequence of Matsuoka et al. is only for the small subunit of this enzyme. In view of these facts, one of ordinary skill in the art would recognize that SEQ ID NO: 5 did not encode a protein having ribulose-1,5-bisphosphate carboxylase activity. There is no nexus between the evidence of record and the asserted properties of SEQ ID NO: 5.

Applicant's arguments regarding all nucleic acids having utility and the comparison to golf clubs are unpersuasive. All nucleic acids belong to the same general class, but do not all have the same utility. All comprise the same bases, yet one sequence may be a promoter, another may encode an enzyme, yet another may be an rRNA, etc. A golf club also has a well-known utility, as do hockey sticks and baseball bats. However, the general class of sticks does not have utility merely because a stick of any sort can be used to hit a ball. Again, the general class does not have utility merely because specific subsets of the class do. The claimed nucleic acid sequence has not been shown to have a utility other than those which may be attributed to the general class of nucleic acids, as previously set forth and reiterated above, and therefore does not have a specific, substantial and credible utility.

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Applicant's arguments regarding differential gene expression and microarray analysis are not persuasive. Applicant is not claiming a microarray nor does the specification document that this particular sequence is, in fact, differentially expressed under some condition. Such a determination and its meaning or significance to one of ordinary skill in the art would further experimentation to reasonably confirm a real world use and as such is not a substantial use.

Claims 1 and 23-24 are also rejected under 35 U.S.C. 112, first paragraph as failing to comply with the enablement requirement.

Claims 1 and 23-24 lack enablement due to a lack of specific and substantial utility as discussed above. Therefore, one skilled in the art clearly would not know how to use the claimed invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 as amended is directed to a purified nucleic acid molecule that encodes a ribulose-bisphosphate carboxylase enzyme. SEQ ID NO: 5 does not encode the entirety of a ribulose-bisphosphate carboxylase enzyme for the reasons set forth above. Note that the claim no longer embraces encoding a fragment of the enzyme and as such this recitation in the claim is now erroneous.

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***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne P. Allen whose telephone number is 571-272-0712. The examiner can normally be reached on Monday-Thursday, 5:30 am - 1:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel, PhD can be reached on 571-272-0718. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Marianne P. Allen*  
Marianne P. Allen  
Primary Examiner  
Art Unit 1631  
7/5/05

mpa